

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA,

Plaintiff,

v.

18 CR 0119 (SJ)

MEMORANDUM
AND ORDER

TAMBHIA TUCKER,

Defendant.

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APPEARANCES

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Tambhia Tucker ("Defendant" or "Tucker") is charged with Conspiracy to Commit Hobbs Act Robbery and Attempted Hobbs Act Robbery under 18 U.S.C. § 1951 as well as with Possessing, Brandishing and

Discharging a Firearm During Crimes of Violence under 18 U.S.C. § 924(c)(1)(A) stemming from a robbery that took place on August 14, 2017 at a Brooklyn gas station and auto repair shop. Tucker moves to preclude the Government from introducing ballistics and DNA evidence through expert testimony, citing concerns over the reliability of the methods used. In making this challenge, the Defendant relies largely on a report by the President's Council of Advisors on Science and Technology ("PCAST"), which highlights important shortcomings in the field of forensic science, including ballistics and DNA testing. Tucker also moves this court to dismiss the 924(c) count ("Count Three") from the indictment on the grounds that neither conspiracy to commit or attempted Hobbs Act robbery are categorically crimes of violence following *U.S. v. Davis*, 139 S. Ct. 2319 (2019). Based on the following reasons, the parties' submissions, and arguments made on the record, the Defendant's motions to exclude the Government's ballistics and DNA expert testimony are **DENIED** and the Defendant's motion to dismiss Count Three is **GRANTED**.

I. Relevant Background

Tucker is alleged to have been one of two perpetrators of an attempted armed robbery of a Brooklyn gas station on August 14, 2017. (Dkt. No. 8.) The Government alleges Tucker and his co-conspirator engaged in a

shootout with the owner of the gas station before fleeing the scene. (Dkt. No. 37.) Fired bullets, casings, and bullet fragments from the shootout were collected and analyzed by the New York City Police Department ("NYPD"). (Id.) The NYPD also recovered a hat and bandana allegedly worn by the perpetrator of the attempted robbery which were later tested by the Office of the Chief Medical Examiner for New York City ("OCME"). (Id.) The OCME determined with a high degree of certainty that Tucker was included as a contributor to the DNA recovered from both the hat and the bandana. (Id.) Defense now seeks to preclude Government expert testimony introducing this evidence on the grounds that both the ballistics and DNA analyses are unreliable.

II. Defendant's Motions to Preclude Evidence

a. Legal Standard Governing Expert Opinion

Federal Rule of Evidence 702 allows for the admission of a qualified expert's testimony when:

- a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- b) the testimony is based on sufficient facts or data;
- c) the testimony is the product of reliable principles and methods; and
- d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. At issue is the reliability of the ballistics and DNA analysis procedures used in the instant investigation. In determining reliability, the Court employs a “flexible” inquiry that considers the following factors:

- [a] the theory’s testability;
- [b] the extent to which it has been subjected to peer review and publication;
- [c] the extent to which a technique is subject to standards controlling the technique’s operation;
- [d] the known or potential rate of error; and
- [e] the degree of acceptance within the relevant scientific community.

See United States v. Romano, 794 F.3d 317, 330 (2d Cir. 2015) (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.* 509 U.S. 579, 593-94 (1993) (internal quotations omitted). These factors are intended to be “helpful, not definitive,” and this Court retains “broad latitude” to determine the reliability of testimony. *Kumho Tire Co., Ltd. V. Carmichael*, 526 U.S. 137, 142, 151-52 (1999).

b. Ballistics Analysis and the PCAST Report

The Government seeks to elicit expert testimony from NYPD Detective Matthew Parlo at trial to demonstrate that “the deformed bullets and bullet fragments found at the crime scene came from a minimum of three different firearms.” (Dkt. No. 37 at 4.) This testimony is directly relevant as to whether the perpetrator discharged a firearm in furtherance of the attempted robbery,

triggering a ten-year mandatory minimum under 18 U.S.C. § 924(c)(1)(A)(iii). Defendant seeks to preclude this testimony on the grounds that firearms identification is “subjective, unreliable and unverified,” (Dkt. No. 30 at 13.) and because Parlo applied the methods in an unreliable way. (Dkt. No. 49 at 3.).

Defendant acknowledges that courts have historically allowed testimony on ballistics identification. *See e.g., United States v. Smalls*, 719 F. Appx. 83, 85-86 (2d Cir. 2018); *United States v. Gil*, 680 F. Appx. 11, at 13-14 (2d Cir. 2017); *United States v. Williams*, 506 F.3d 151, 161-62 (2d Cir. 2007); *United States v. Ashburn*, 88 F. Supp. 3d 329, 244 (D.N.J 2015); *United States v. Barnes*, No. S9 04 CR. 186 (SCR), 2008 WL 9359654 (S.D.N.Y. 2008) Nonetheless, Defendant argues that “courts have [not] seriously considered all aspects of the field’s development, or tested its reliability since the PCAST report decided it was not foundationally valid...” (Dkt. No. 30 at 18).

The PCAST Report, along with the bulk of literature submitted to the Court questioning the validity of ballistics identification, focuses on the ability of examiners to match bullets and casings to a particular firearm. *See e.g., PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY ON FORENSIC SCIENCE IN CRIMINAL COURTS, FORENSIC SCIENCE IN FEDERAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE-COMPARISON METHODS*

104-114 (2016) (the "PCAST Report"); NATIONAL RESEARCH COUNCIL, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 153 (2009) (the "NRC Report"). This is done by microscopically comparing markings on fired bullets that are supposedly unique to a specific firearm. PCAST Report at 11. Over time, the validity of this method has increasingly come under fire by credible members of the scientific community concluding that further study is required. *See Id.* at 111; NRC Report at 154 ("Individual patterns from manufacture or from wear might, in some cases, be distinctive enough to suggest one particular source but additional studies should be performed...").

However, in this case, the Government does not seek to elicit testimony that any bullets were fired from any specific firearm (the subject of PCAST's criticism) but rather that the bullets were fired from three different guns. (Dkt. No. 37.) Parlo's conclusion is based on "observed disagreement of class characteristics." Tr. at 27 (emphasis added). "Class characteristics" include "caliber (the diameter of a bullet), number of lands and grooves (lands are the spaces between grooves on the inside of the barrel) and direction of rifling twist." (Dkt. No. 30 at 5.) Guns of different makes produce distinct class characteristics that are "permanent and predetermined before manufacture," and common to all guns of that make. PCAST Report at 11.

While one cannot determine whether a bullet came from a specific gun using class characteristics, one can determine whether bullets were fired from the same type of gun. Therefore, by grouping recovered bullets by their shared class characteristics, an examiner can determine the minimum number of contributing guns.¹

Neither the PCAST Report or the NRC Report challenged the foundational validity of the “simpler between-class comparisons.” PCAST Report at 112 fn. 335; *see also* NRC Report at 154 (“The committee agrees that class characteristics are helpful in narrowing the pool of tools that may have left a distinctive mark.”) (quoted in the PCAST Report at 105, fn. 316). Following the relatively routine identification of certain class characteristics (i.e. rifling pattern, numbers of lands and grooves, and caliber), Parlo’s conclusion is ultimately the result of a simple logic problem.

However, the Court is troubled by Parlo’s claim that a second examiner conducts their own “independent examination” and comes “to their own conclusion” before comparing results, all without taking a single note. (Transcript from Hearing on 6/18/2019 at 28, 73.) (Hereafter “Tr.”) To

¹ This method can only determine the minimum number of contributing guns because without comparing individual characteristics, there would be no way to determine if multiple guns of the same make were used at the scene of a crime. Defense counsel took issue with this, but the Court cannot see why this is relevant to the conclusion Parlo is offering. (*See* Dkt. No. 49 at 2, 9.)

independently verify Parlo's conclusion without notes, the second examiner would have had to examine about 30 deformed bullets, casings, or bullet fragments. (Tr. at 69.) They would have had to mentally record at least three class characteristics (or the inability to do so) for each, and then group them by shared characteristics before finally comparing those results to Parlo's. Assuming *arguendo* that this is even possible for an ordinary mind, performing such an analysis without reference to a single note in a criminal investigation in which a person's liberty is at stake is reckless to say the least.

That said, because Parlo's own analysis of class characteristics was relatively routine, well-documented, and will be subject to cross-examination as well as potential competing expert testimony, the motion to preclude is denied. The Court has carefully considered Defendant's arguments against the foundational validity of ballistics identification and finds them inapplicable to the instant case. Defendant's request to limit Parlo's testimony is also denied as it does not comport with the evidence that the government seeks to introduce. However, the Government shall produce any notes, photographs, sketches, or other materials used by Parlo and the second examiner in coming to their conclusions. Lastly, the Government's motion to exclude Defendant's expert from testifying at trial altogether is

denied as his testimony may be helpful to the jury to assess Parlo's findings and potentially consider alternative findings.

c. STRmix DNA Analysis

The Defendant further moves this Court to preclude expert testimony regarding the results of STRmix DNA analysis of a bandana and hat recovered as evidence related to the instant offense, or to alternatively order a *Daubert* hearing on the matter. (Dkt. No. 39 at 3) While *Daubert* hearings are "highly desirable to enable the parties to present expert evidence and to test credibility through cross examination," *Borawick v. Shay*, 68 F.3d 597, 608 (2d Cir. 1995), it is not necessary with regards to the admission of the STRmix DNA evidence in this case.

The court recognizes that there may be gaps in the understanding of the full reliability of STRmix and probabilistic genotyping more broadly. However, these knowledge gaps generally relate to the tools' capabilities to analyze DNA mixtures that contain several different contributors and only a low-level contribution from the minor contributor. See e.g., PCAST Report at 80 ("these methods appear to be reliable for three-person mixtures in which the minor contributor constitutes at least 20 percent of the intact DNA in the mixture"). And in recent years, the confidence in the reliability of STRmix has only grown. See Bright JA, et al., "Internal validation of STRmix – A multi

laboratory response to PCAST,” 34 FORENSIC SCIENCE INTERNATIONAL: GENETICS 11 (2018) (presenting a compilation of results of internal validation studies by thirty-one laboratories that use STRmix). In the instant case, the two DNA samples were each two-person mixtures. According to the OCME analyst, one sample contained a 97 percent contribution from the “Male Donor,” alleged to be the defendant, while the other contained a 16 percent contribution. (Dkt. No. 42 at 3.) Even the PCAST report, heavily relied on by the defense to criticize STRmix, does not seem to challenge its reliability in this context. *See* PCAST Report at 80, fn. 216 (“The methods can also be reliably applied to single-source and simple-mixture samples, provided that...the proportion of the minor contributor is not too low (e.g. at least 10 percent.”).)

STRmix is currently in use in over forty states and federal laboratories in the United States and in at least thirteen other countries. *See United States v. Christensen*, No. 17-CR-20037-JES-JEH, 2019 WL 651500 (C.D. Ill. Feb. 15, 2019); *People v. Lopez*, Index No. 3927/16, slip op. at 3 (N.Y. Sup. Ct. Apr. 27, 2018) (Bartley, J.). The software and its underlying principles have been peer-reviewed in more than 90 articles. *United States v. Pettway*, No. 12-CR-103S (1), (2), 2016 WL 6134493, at *2 (W.D.N.Y. 2016). Knowledgeable bodies have evaluated the software and approved its use, such as the DNA Subcommittee

of the New York State Commission on Forensic Science, a group of “experts in various scientific disciplines related to DNA analysis...” *People v. Bullard-Daniel*, 54 Misc. 3d 177, 183 (N.Y. Sup. Ct. 2016).

Courts have overwhelmingly admitted expert testimony based on STRmix results. See e.g., *United States v. Christensen*, No. 17-CR-20037-JES-JEH, 2019 WL 651500 (C.D. Ill. Feb. 15, 2019); *United States v. Oldman*, Case No. 18-CR-0020-SWS, Docket No. 227, slip op. (D. Wyo. Dec. 31, 2018); *United States v. Russell*, No. CR-14-2563 MCA, 2018 WL 7286831 (D.N.M. Jan. 10, 2018); *United States v. Pettway*, No. 12-CR-103S, 2016 WL 6134493 (W.D.N.Y. Oct. 21, 2016). However, the Defendant did cite to one forthcoming opinion that has since been released in which Judge Neff in the Western District of Michigan precluded the Government from introducing STRmix results found by the Michigan State Police lab. *United States v. Daniel Gissantaner*, Case No. 1:17-cr-130 (W.D. Mich. Oct. 16, 2019). In *Gissantaner*, Judge Neff appointed two independent experts to review the evidence and offer their opinions. One expert approved of the procedures used, while a second expert, Dan E. Krane, PhD, raised issues of concern that Judge Neff ultimately found persuasive. At least two facts render Krane’s opinion inapplicable in this case.

Most importantly, the mixture at issue in *Gissantaner* was composed of three contributors and only a seven percent contribution from the Defendant. *Gissantaner* at 2-3. As stated previously, the PCAST report found that such mixtures have not yet been proven foundationally valid. PCAST Report at 80. While other experts may disagree with this conclusion, this was key to Dr. Krane's analysis. *Gissantaner* at 44. In contrast, both mixtures at issue in this case are alleged to have come from only two contributors—one composed of 97 percent of the defendant's DNA and the other composed of 16 percent of the defendant's DNA. (Dkt. No. 42 at 3.)

Second, Krane had serious concerns about the independent validation study performed at the Michigan State Police (MSP) Laboratory. Krane ultimately found that, "[t]he evidence sample in this case seems to fall outside of (below) the ranges of %-contribution and quantity-of-template-contributed for which the MSP Laboratory has validated STRmix." (*Id.* at 40) Krane was also concerned that the study "did not indicate what the false-positive and the false negative rates were, which would be especially helpful with respect to the very marginal samples." (*Id.* at 33.)

Here, the OCME use of the software appears properly validated for the mixtures at issue in this case. See Dkt. No. 39 at 7-8 ("STRmix was internally validated by OCME for mixtures of two or three people. Four person

mixtures failed OCME's STRmix validation.") (emphasis added). The OCME validation study "encompassed 14 studies which included the testing of over 600 samples and over 4,000,000 comparisons to true and non-contributors." (Dkt. No. 42-1 at ¶¶ 18-19.) The study also calculated and publicly reported a false positive rate for "2- and 3-contributor samples." (Dkt. No. 42 at 17 fn 3.) Ultimately, Krane's concerns regarding the MSP STRmix analysis are not persuasive in the instant case.

This Court acknowledges the concerns surrounding the fast-expanding use of probabilistic genotyping. However, those concerns pertain to the ceiling of this technology's potential, while the testing of most single source and simple mixtures appears to be the well-accepted floor in the forensics community. For that reason, the Defendant's motion to preclude is denied.

III. Defendant's Motion to Dismiss Count Three

Tucker moves this Court to dismiss Count Three of his indictment, which alleges he discharged a firearm in furtherance of a "crime of violence" in violation of Section 924(c). 18 U.S.C. § 924(c)(1)(A). The crimes of violence on which the charge is predicated are Count One (Conspiracy to Commit Hobbs Act Robbery) and Count Two (Attempted Hobbs Act Robbery). (Dkt. No. 8.) Section 924(c) defines a "crime of violence" as a felony that:

(A) has as an element the use, attempted use, or threatened use of physical force against the person or property of another, or

(B) that by its nature, involves a substantial risk that physical force against the person or property of another may be used in the course of committing the offense.

18 U.S.C. § 924(c)(3). In *Davis*, the Supreme Court ruled that subsection (B) (“the residual clause”) was unconstitutionally vague. 139 S. Ct. at 2336. As a result, to qualify as a crime of violence under 924(c), a crime must have “as an element the use, attempted use, or threatened use of physical force.” 18 U.S.C. § 924(c)(3)(A) (“the elements clause”). Following *Davis*, it is clear that Hobbs Act conspiracy is not categorically a crime of violence and therefore, Count One can no longer support a 924(c) charge. See *United States v. Barrett*, 937 F.3d 126, 129 (2d Cir. 2019). Thus, the dispositive issue in this motion is whether attempted Hobbs Act Robbery is necessarily a crime of violence.

a. Legal Standard

In determining whether a crime “has as an element the use, attempted use, or threatened use of physical force,” this Court must apply the “categorical approach.” *United States v. Hendricks*, 921 F.3d 320, 327 (2d Cir. 2019). In doing so, the Court, “do[es] not consider the particular facts of the underlying crime” but rather asks “whether the minimum criminal conduct necessary for conviction under a particular

statute necessarily involves violence.” (*Id.*) Determining the minimal conduct necessary for conviction, “requires more than the application of legal imagination to the statute’s language.” *United States v. Hill*, 890 F.3d 51 (2d Cir. 2018) (quoting *Gonzales v. Duenas-Alvarez*, 549 U.S. 183, 193 (2007)). “To show that a particular reading of the statute is realistic, a defendant ‘must at least point to his own case or other cases in which the ... courts in fact did apply the statute in the ... manner for which he argues.’” (*Id.*)

An attempt conviction has two elements:² 1) intent to commit the underlying crime and 2) taking a substantial step toward its completion. See *United States v. Gagliardi*, 506 F.3d 140, 150 (2d Cir. 2007). A “substantial step” must be “something more than mere preparation, yet may be less than the last act necessary before the actual commission of the substantive crime.” *United States v. Farhane*, 634 F.3d 127, 147 (2d Cir. 2011). In the case of robbery, the Second Circuit has found “reconnoitering the place contemplated for the commission of the crime” or possession of “paraphernalia to be employed in the commission of the

² There is also a jurisdictional element to attempted Hobbs Act robbery that is not relevant to this analysis.

crime,” to be sufficient to constitute a “substantial step.” *United States v. Jackson*, 560 F.2d 112, 120 (2d Cir. 1977).

b. Discussion

As an initial matter, the Second Circuit has not addressed whether attempted Hobbs Act robbery is a crime of violence under Section 924(c) and the Court is aware of only two district court opinions in this Circuit to have done so. *See United States v. Jeffreys*, Case No. 18-CR-359 (KAM) (E.D.N.Y. Oct. 11, 2019); *United States v. Alfonso*, 2019 WL 1916199 (D. Conn. Apr. 30, 2019). In *Jeffreys*, the court held that attempted Hobbs Act robbery was categorically a crime of violence, while in *Alfonso*, the court decided that it was not. (*Id.*) However, in *Jeffreys*, defense counsel failed to fully brief the issue and it was not properly before the court. *Jeffreys*, Case No. 18-CR-359 (KAM) (“the defendant [does not] actually apply the categorical approach, or *Davis*, to provide a jurisprudential foundation for his argument.”). As a result, the *Jeffreys* court never applied the categorical analysis itself. Rather, *Jeffreys* states that “[t]he Second Circuit has...indicated that where a substantive offense is a crime of violence under 924(c), an attempt to commit that offense similarly qualifies under the elements clause.” (*Id.* at 18.) (citing *United States v. Scott*, 681 F. App’x 89, 95 (2d Cir. 2017).) Other courts have made similarly broad rulings. *See e.g., United States v. St. Hubert*, 909 F.3d 335,

351 (11th Cir. 2018) (“...even if the completed substantial step falls short of actual or threatened force, the robber has attempted to use actual or threatened force because he has attempted to commit a crime that would be violent if completed.”); *Hill*, 877 F.3d at 718-19 (7th Cir. 2017) (“When a substantive offense would be a violent felony under § 924(e) and similar statutes, an attempt to commit that offense also is a violent felony.”).

Such an absolute rule (i.e. that an attempt to commit any violent crime will necessarily be itself a violent crime) seems at odds with the requirements of the categorical analysis in which a court must examine “the minimum criminal conduct necessary for conviction under a particular statute.” *Hendricks*, 921 F.4d at 327 (emphasis added). This is especially true given the “wide[]...ambit of attempt liability,” under federal law. *Farhane*, 634 F.3d 127, 146 (2d Cir. 2011). Further, the Second Circuit case that *Jeffreys* offered in support does not make such a generalization but rather states that “[a]ttempted murder in the second degree is a crime unmistakably involving an attempted use of physical force,” and relies on precedent that was overturned in *Davis. Scott*, 681 F. App’x 89 (“Under the principles established in *Elder*, the conspiracy to commit that crime is itself a crime of violence.”) (citing *United States v. Elder*, 88 F.3d 127 (2d Cir. 1996).

For these reasons, this Court concurs with Judge Pryor and two other judges of the 11th Circuit that, “it is incorrect to say that a person necessarily attempts to use physical force within the meaning of 924(c)’s elements clause just because he attempts a crime that, if completed would be violent.” *United States v. St. Hubert*, 918 F.3d 1174, 1212 (11th Cir. 2019) (Jill Pryor, J., joined by Wilson and Martin, JJ., dissenting from the denial of rehearing en banc). The Court now turns to the categorical analysis.

Relying on *Jackson*, the defense reasonably interprets “surveillance” as the “minimum criminal conduct,” necessary to convict for attempted Hobbs Act robbery. (Dkt. 52 at 3). Thus, the question becomes whether a person conducting surveillance of a target with the intent to commit robbery necessarily uses, attempts to use, or threatens the use of force. This Court finds Judge Pryor persuasive on the point:

We can easily imagine that a person may engage in an overt act—in the case of robbery, for example, overt acts might include renting a getaway van, parking the van a block from the bank, and approaching the bank’s door before being thwarted—without having used, attempted to use, or threatened to use force. Would this would-be robber have *intended* to use, attempt to use, or threaten to use force? Sure. Would he necessarily have attempted to use force? No.

St. Hubert, 918 F.3d 1174, 1212 (Pryor, dissenting from the denial of rehearing en banc) (emphasis in original).

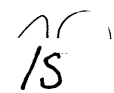
As Tucker has pointed out, in the Second Circuit, even less severe conduct, such as “reconnoitering” a target location or possessing “paraphernalia to be employed in the commission of the crime,” can constitute a substantial step and lead to an attempt conviction. See *Jackson*, 560 F.2d at 120. Accordingly, in agreement with *Alfonso*, this court finds that given the broad spectrum of attempt liability, “the elements of attempt to commit robbery could clearly be met without any use, attempted use, or threatened use of violence.” 2019 WL 1916199 at *3. For that reason, Count Three is dismissed.³

IV. Conclusion

For the foregoing reasons, Tucker’s motions to preclude the Government’s expert testimony regarding ballistics and STRmix analyses are denied and Tucker’s motion to dismiss Count Three is granted.

SO ORDERED.

Dated: January 8, 2020
Brooklyn, NY



Sterling Johnson, Jr., U.S.D.J.

³ The Court makes no decision at this time as to the relevance of the Government’s ballistics evidence following this ruling.